



Medical Data Surveillance System (MDSS) 3.2: Capabilities

Fleet Review
04 December

Medical Data Surveillance System (MDSS)



Development Objective: To provide enhanced medical threat detection through advanced analysis of routinely collected patient data.

- A tool for conducting advanced analyses of patient data by interfacing with existing databases (i.e., CHCS, SAMS) and detecting medical threats.
- MDSS Employs signal detection methods to provide early detection of changes in syndromes and disease groups thereby signaling a medical event.
- Baselines and thresholds are automatically set by the system within 7 days after installation and then deviations from the baseline are flagged in near real time.
- Provides routine reports such as the weekly Disease Non-Battle Injury Report and the Reportable Medical Events.

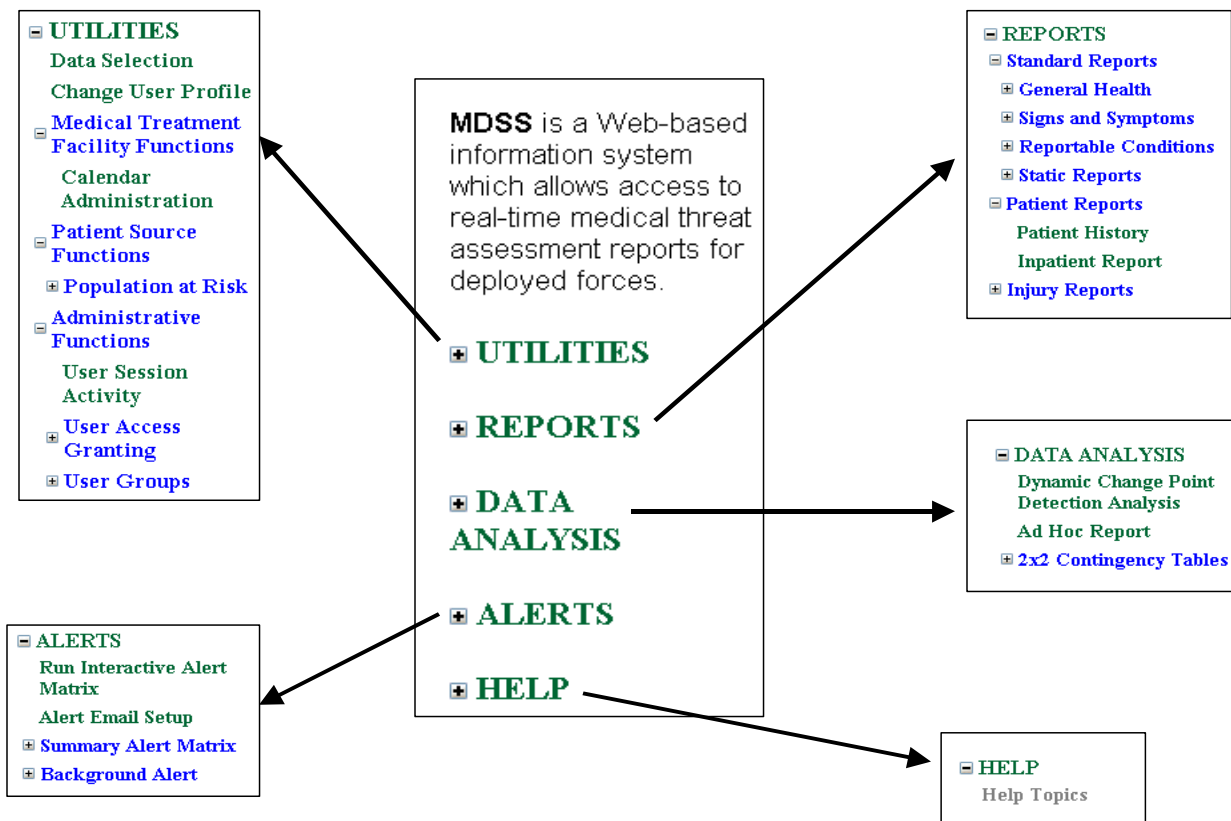
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MDSS V3.2 Navigation





Patient Reports

Patient List

Patient Information

Back to > [selection screen](#)

This Patient Information Report for was loaded at: 7/22/2003 17:22:46 GMT

To see the events entered for a particular patient, click on the patient's name below.

1. [ADESSO, TONY PARKER](#) SSN: 870243008

Patient Treatment Report

Patient Treatment Report

Loaded at: 7/22/2003 17:26:54 GMT

Full Name: BACA, CHU MiddleName

Social Security #: 456456456

Nationality: Null Nationality

Gender: M

Race: American Indian

D.O.B: 1/22/1965

Age: 38

Op Status: Active

Branch of Service: USAF

Rank: SecondLieutenant

Command: millen

Unit: falcon

MTF: W0DA DEPOT SUPT ACT FE DSAFE

Date Treated: 2/11/2003 8:15:00 AM

GPS: NULL GPS

BP (Systolic):

BP (Diastolic):

Temperature:

Pulse Rate:

Pulse Rhythm:

Respiratory Rate:

Patient History

BACA, CHU

Medical history between: 2002-02-28 and 2003-03-17

To see information entered for the patient during a particular event, click on the encounter below.

Date	Treated at	ICD9(s)	Primary Diagnosis
2/11/2003 8:07:00 AM	W0DA DEPOT SUPT ACT FE DSAFE	84700	SPRAINS AND STRAINS OF OTHER AND UNSPECIFIED PARTS OF BACK
2/11/2003 8:15:00 AM	W0DA DEPOT SUPT ACT FE DSAFE	37230	CONJUNCTIVA DISORDERS

Inpatient List

[STADLER, CRAIG, A](#) ID# 815764587

Diagnosis: ESSENTIAL HYPERTENSION

Date: 01-Mar-2003

Prognosis: NULL Prognosis

Rank/Rate: NULL Rank	Branch: USAF
Command: NULL Command	Nationality: Null Nationality

[Ford, GLENN, F](#) ID# 432117092

Diagnosis: OTHER NONINFECTIOUS GASTROENTERITIS AND
COLITIS

Date: 01-Mar-2003

Prognosis: NULL Prognosis

Rank/Rate: NULL Rank	Branch: USAF
Command: NULL Command	Nationality: Null Nationality

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DNBI Report

Disease and Non-Battle Injury Category	Weekly Incidence	Weekly rate per thousand	Light Duty Days	Lost Work Days	In-Patients	Out-Patients
--	------------------	--------------------------	-----------------	----------------	-------------	--------------

[Other Medical/Surgical](#)

2

90

0

0

0

2

[Dermatological](#)

3

[Other Injury](#)

3

[Respiratory](#)

2

[Work Injury](#)

1

[Psychiatric Mental](#)

1

Psychiatric Stress

0

STD

0

Sports Injury

0

UNKNOWN

0

Unexplained Fever

0

Gastrointestinal

0

Gynecologic

0

Heat/Cold

0

Motor Vehicle Accident Injury

0

Ophthalmological

0

Total

19

Reportable Conditions

Weekly Incidence

Weekly rate per thousand

In-Patients

Out-Patients

Amebiasis (00600)

0

0

0

0

Anthrax (02200)

0

0

0

0

Any unusual clustering of disease or symptoms (79900)

0

0

0

0

Any unusual condition not listed (79980)

0

Bacterial Meningitis (32000)

0

Biological warfare agent exposure (E9971)

0

Bites, venomous animal (E9050)

0

Botulism (00510)

0

Brucellosis (02300)

0

Bullets and fragments (E9910)

0

Campylobacteriosis (00843)

0

[ABDOMINAL PAIN](#)

1

10

ACUTE RESPIRATORY DISTRESS

0

0

BLEEDING OF UNEXPLAINED ORIGIN OR CAUSE

0

0

BREATHING LABORED

0

0

BRONCHITIS, DIFFUSE, INFECTIOUS, INFLAMMATORY

0

0

CHEST PAIN

0

0

Sort Function

Sort Criteria:

Rate
Alphabetically
Total Encounters
Rate
Inpatient Encounters
Outpatient Encounters

Standard Reports



Reportable Conditions NEW Reports

- Vital Signs
- Non-Battle Injury
- Battle Injury

Ill-Defined Conditions

Category	Weekly Incidence	Weekly rate per thousand	Light Duty Days	Lost Work Days	In-Patients	Out-Patients
ABDOMINAL PAIN	1	10			0	1
ACUTE RESPIRATORY DISTRESS	0	0	0	0	0	0
BLEEDING OF UNEXPLAINED ORIGIN OR CAUSE	0	0	0	0	0	0
BREATHING LABORED	0	0	0	0	0	0
BRONCHITIS, DIFFUSE, INFECTIOUS, INFLAMMATORY	0	0	0	0	0	0
CHEST PAIN	0	0	0	0	0	0

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Daily DNBI

NEW

Daily Static Disease and Non-Battle Injury Category	Weekly Incidence	Weekly rate per thousand	Reference Rate	Light Duty Days	Lost Work Days	In-Patients	Out-Patients
Gynecologic	6	328.125	0	0	0	0	6
Injury,Recreational/Sports	10						
STDs	10						
Injury,MVA	6						
Respiratory	6						
GI,Infectious	5						
Dermatologic	5						
Ophthalmologic	5						
Fever,Unexplained	5						
Psychiatric,Mental Disorders	2						
Injury,Other	0						
Injury,Work/Training	0						
Neurological	0						
All Other, Medical/Surgical	0						
Combat/Operational Stress Reaction	0						
Heat/Cold	0						
Total	60						

Weekly DNBI

NEW

Weekly Static Disease and Non-Battle Injury Category	Weekly Incidence	Weekly rate per thousand	Reference Rate	Light Duty Days	Lost Work Days	In-Patients	Out-Patients
Gynecologic	5	24.752	0.5	0	0	0	5
All Other, Medical/Surgical	24	9.86	0	0	0	1	23
GI,Infectious	18	7.395	0.5	0	0	0	18
Dermatologic	14	5.752	0.5	0	0	0	14
Fever,Unexplained	14						
Respiratory	14						
Injury,Recreational/Sports	9						
Injury,MVA	6						
STDs	6						
Injury,Work/Training	5						
Psychiatric,Mental Disorders	3						
Ophthalmologic	3						
Combat/Operational Stress Reaction	2						
Heat/Cold	0						
Injury,Other	0						
Neurological	0						
Total	123						

Daily Syndromic

NEW

Daily Syndromic Category	Daily Incidence	Weekly rate per thousand	Reference Rate	Light Duty Days	Lost Work Days	In-Patients	Out-Patients
Dermatological Illness of Unclear Cause	6	15.365	0	0	0	0	6
Infectious GI Illness	6	15.365	0	0	0	0	6
Systemic Febrile Illness	5	12.803	0	0	0	0	5
Lower Respiratory Illness	2	5.124	0	0	0	0	2
Unexplained Neurological Symptoms	2	5.124	0	0	0	0	2
Total	21	53.78	0	0	0	0	21





Summary Alert Matrix

Background Alerts

Alert Status for 2003-03-17

COCOMM

MTF/Report	General Health		Signs and Symptoms			Reportable Conditions	
	DNBI	Major ICD9	Key Symptoms	Biological Syndrome	III-Defined Conditions	Summary Reportable Conditions	Reportable Conditions Alert
0101 AV BN 04 FWD DET B1	■	■	■	■	■	■	■
0168 MD BN CO B	■	■					
0261 MD BN CO A AREA SPT F	■	■					
362NAVE3C	■	■					
FLEET HOSPITAL UNIT	■	■					
USS NIMITZ CVN 68	■	■					
W001 704 MI BDE HHC	■	■					
W0VG DCA FMO PB	■	■					

NEW

NEW

Background Alert Mat

Total Count Alert for MTF: MISAWA AFB

<< Back

Major ICD9/Date	Log Summary	2003-02-17	2003-02-18	2003-02-19	2003-02-20	2003-02-21	2003-02-22	2003-02-23	2003-02-24	2003-02-25	2003-02-26	2003-02-27	2003-02-28	2003-03-01	2003-03-02	2003-03-03	2003-03-04
DISEASES OF THE CIRCULATORY SYSTEM		0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
DISEASES OF THE DIGESTIVE SYSTEM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DISEASES OF THE RESPIRATORY SYSTEM		0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
INFECTIOUS AND PARASITIC DISEASES		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0

NEW

NEW

- ☐ ALERTS
 - Run Interactive Alert Matrix
 - Alert Email Setup
- ☐ Summary Alert Matrix
- ☐ Background Alert

Epidemiological Reach-back



**BACK TO
MAIN PAGE**

Medical Messages

NEW

MTF: MISAWA AFB

DNBI: DISEASES OF THE CIRCULATORY SYSTEM

Date: 2003-02-15 to 2003-03-17

Log Date	Alert Date	Message	Name	Phone
7/14/2003 5:05:34 PM	3/17/2003	This is a test	jamie Pugh	

**Postback
Message**

Post New Message

NEW

Name:

E-Mail:

Phone:

Date Referenced:

Message:

Submit

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Record of Interventions and Findings



Medical Incident Postback

NEW

MTF: MISAWA AFB

DNBI: DISEASES OF THE CIRCULATORY SYSTEM

Date: 2003-02-15 to 2003-03-17

Name:

E-Mail:

Phone:

Date Referenced:

Postback Status:

Postback Message:

High

(Use page up/dn to Scroll)

NEW

INJURY AND POISONING

Postback Messages

Date	Category	Message	Status	Name
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E-mail Notification of Adverse Events



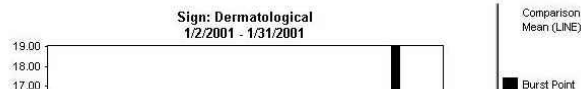
Alert Email Setup

MTF:

Email Addresses for Alert **NEW**

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DCD



Relative Risk

2x2 Contingency Table (Time Interval) for All

Incidence Count

Time Interval:	Dermatological	All other DNBI categories	Total
2001-05-13 to 2001-05-19	13	196	209
2001-05-20 to 2001-05-26			
Total			

Test threshold = 3.841

Odds Ratio = 0.4453

Ad Hoc Report

Drop Page Fields Here

NEW

DATA ANALYSIS

Dynamic Change
Point Detection
Analysis

Ad Hoc Report

2x2 Contingency
Tables

by MTF

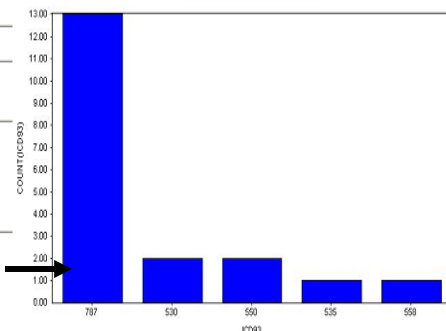
by Unit

by Time Segment

Top Ten ICD-9 Codes

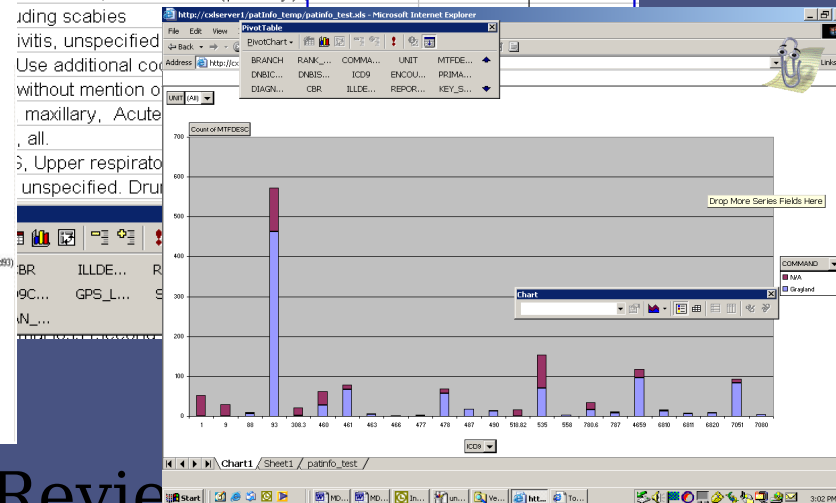
ICD93	PRIMARY DIAGNOSIS	COUNT(ICD93)
787	SYMPTOMS INVOLVING DIGESTIVE SYSTEM	13

ICD93 VS COUNT(ICD93)



NEW

DESCRIPTION	F	M	Grand Total
anterior, without mention of compl	1		1
nstruation, Amenorrhea (primary)	39	1	40



Additional New MDSS 3.2 **NEW** features



- **Enhanced Performance and Reliability**
- **System Usage Logs**
- **Database**
 - Move database to Oracle 9.2
 - Identify new data elements needed in JMeWS
 - Link to new JMeWS, JMEDSAF, and MEDCOP
- **Population At Risk demographic breakdown**
 - Gender
 - Duty status
- **Dynamic Reports**
 - Multiple ICD-9s
 - Day, Week, Month selection
- **Analysis**
- **Online help**
- **Data selection**
 - Save selections feature
 - Multi-COCOM in theater drop down selection
 - Branch of service
 - Gender
 - Duty status
- **Alert notification**
 - Geographic display link with MedCOP
- **Patient record additions**
 - Vital signs
 - Multiple ICD-9s
- **Static Weekly and Daily Disease and Non-Battle Injury Report**
 - Input Web tool

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Multiple ICD-9s
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